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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,634	01/18/2002	Murali Bashyam	M-11907 US	8726

7590 05/05/2005

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EXAMINER

REFAI, RAMSEY

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 05/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/051,634

Applicant(s)

BASHYAM ET AL.

Examiner

Ramsey Refai

Art Unit

2154

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 January 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-124 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-124 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 11, 12, 27, 42, 43, 72, 77-81 and 116 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Claims 1-124 are presented for examination.

### *Claim Objections*

2. Claims 11-12, 27, 42-43, 72, 77-81, and 116 are objected to because of the following informalities:

Claims 11-12, in line 1; "claim 10" will be taken as **-claim 9-**

Claim 27, line 8; "fist" will be taken as **-first-**

Claims 42-43, in line 1; "claim 41" will be taken as **-claim 40-**

Claims 73-74 in line 1; "claim 72" will be taken as **-claim 71-**

Claims 72 and 77-81 in line 1; "claim 1" will be taken as **-claim 63-**

Claim 116, line 1; "claim 82" will be taken as **-claim 113-**

Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-10, 15-41, 46-72, 77-103, and 108-124 rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen et al (U.S. Patent No. 6,389,462) in view of Geagan, III et al (U.S. Patent No. 6,735,634).

5. As per claim 1, Cohen et al teach a method of managing network communication comprising:

terminating a first transmission control protocol ("TCP") connection at a first network element, wherein said first TCP connection is between said first network element and a second network element, and said first TCP connection is intended to be terminated at a third network element (**column 7, lines 11-35 and column 2, lines 39-65; original connection to origin server is terminated and redirected to proxy**);

initiating a second TCP connection between said first network element and a third network element (**column 2, lines 51-65, column 15-19 and column 7, lines 27-35**);

establishing communications between said second (**client**) and said third network elements (**origin servers**) via said first network element (**proxy**) (**column 7, lines 1-35 and column 2, lines 26-44**);

determining need for data transfer between said second and said third network elements by monitoring cache (**column 1, lines 48-58, column 3, lines 40-46, and column 7, lines 15-35; checks if data requested available**) ; and

transferring said data between said second and said third network elements (**column 1, lines 48-58, column 3, lines 40-46, and column 7, lines 15-35; transfers requested data from origin server to client**).

6. Cohen et al fails to teach the use of a plurality of buffers. However, Geagan, III et al teach a receive buffer and a transmit buffer operated under the control of a memory controller/sequencer in a proxy (**column 15, lines 22-34 and column 44-49**). It would have been

obvious to one of the ordinary skill in the art at the time of the applicant's invention to combine the teachings of Cohen et al and Geagan, III et al because Geagan, III et al's use of a proxy with transmit and receive buffers controlled by a memory controller in Cohen et al's method would provide a method to monitor buffers in a proxy to support multiple simultaneous TCP connections with clients requesting data.

7. As per claim 2, Cohen et al teach said second network element initiates said first TCP connection for said third network element (**column 2, lines 39-65 and column 6, lines 47-67; client request is directed to origin server**).

8. As per claim 3, Cohen et al teach said communications between said second and said third network elements are established using said first and said second TCP connections (**column 7, lines 1-35**).

9. As per claim 4, Cohen et al teach said communications between said second and said third network elements forms an end-to-end TCP connection (**column 2, lines 39-65 and column 7, lines 1-35**).

10. As per claim 5, Cohen et al teach said first network element is a proxy server (**column 7, lines 1-35**).

11. As per claim 6, Cohen et al fail to teach wherein a control unit of said proxy server monitors said plurality of buffers. However, Geagan, III et al teach a receive buffer and a transmit buffer operated under the control of a memory controller /sequencer (**column 15, lines 22-34 and column 44-49**). It would have been obvious to one of the ordinary skill in the art at the time of the applicant's invention to combine the teachings of Cohen et al and Geagan, III et al because Geagan, III et al's use of a proxy with transmit and receive buffers controlled by a memory controller in Cohen et al's method would provide a method to monitor buffers in a proxy to support multiple simultaneous TCP connections with clients requesting data.

12. As per claim 7, Cohen et al teach control unit transfers said data between said second and said third network elements (**column 7, lines 1-35; inherent in proxy**).

13. As per claim 8, Cohen et al teach said proxy server supports transparent communications between said second and said third network elements (**abstract, column 1, lines 24-27, and column 2, lines 39-65**).

14. As per claim 9, Cohen et al fail to teach at least one of said plurality of buffers is a receive buffer. However, Geagan, III et al teach the use of a receive buffer in a proxy (**column 15, lines 22-34 and column 44-49**). It would have been obvious to one of the ordinary skill in the art at the time of the applicant's invention to combine the teachings of Cohen et al and Geagan, III et al because Geagan, III et al's use of a proxy with transmit and receive buffers controlled by a memory controller in Cohen et al's method would provide a method to monitor

buffers in a proxy to support multiple simultaneous TCP connections with clients requesting data. Receive buffers hold incoming data requested by clients until operating system/controller is ready to deal with the data.

15. As per claim 10, Cohen et al fail to teach at least one of said plurality of buffers is a transmit buffer. However, Geagan, III et al teach the use of a transmit buffer (**column 15, lines 22-34 and column 44-49**). It would have been obvious to one of the ordinary skill in the art at the time of the applicant's invention to combine the teachings of Cohen et al and Geagan, III et al because Geagan, III et al's use of a proxy with transmit and receive buffers controlled by a memory controller in Cohen et al's method would provide a method to monitor buffers in a proxy to support multiple simultaneous TCP connections with clients requesting data. Transmit buffers transmit requested data to requesting client.

16. As per claim 15, Cohen et al teach said second network element is one of a plurality of clients (**Figure 1 and column 6, line 23**).

17. As per claim 16, Cohen et al teach one of a plurality of applications on said client initiates said first TCP connection for said client (**column 6, lines 47-50, column 1, lines 59-67 column 7, lines 1-11, and abstract**).

18. As per claim 17, Cohen et al teach said third network element is one of a plurality of servers (**column 1, lines 11-23, column 7, lines 1-35 column 2, lines 26-44, abstract, and Figure 1**).

19. As per claim 18, Cohen et al teach a data switching unit of said proxy server determines which one of said plurality of servers to use for said second TCP connection (**column 3, lines 22-27, 40-46, column 7, lines 27-48, and column 1, lines 44-67**).

20. As per claim 19, Cohen et al teach monitoring said first TCP connection (**column 7, lines 1-47 and Figure 2**).

21. As per claim 20, Cohen et al teach receiving a request for data from said application; and determining whether said request requires said second TCP connection with one of said plurality of servers (**column 1, lines 44-67, column 2, lines 40-65, and column 7, lines 1-47**).

22. As per claim 21, Cohen et al teach data switching unit receives said request for data via said control unit (**Figure 2 and column 7, line 55-column 8, lines 10**).

23. As per claim 22, Cohen et al teach determining of said second TCP connection is done by said data switching unit (**column 3, line 10-30, column 1, lines 44-67, column 2, lines 40-65, and column 7, lines 1-47**).



24. As per claim 23, Cohen et al teach if said request does not require said second TCP connection with one of said plurality of servers, servicing said request for data, and closing said connection with said client (**column 1, lines 13-23, column 2, lines 35-65, column 7, lines 1-46**).

25. As per claim 24, Cohen et al teach said request for data is served by passing data from said data switching unit to said control unit for transmission to said application on said client (**Figures 2, 4, column 15, lines 35-56, and column 7, line 55-column 8, line 10**).

26. As per claim 25, Cohen et al teach if said request requires said second TCP connection with one of said plurality of servers, selecting a first server from said plurality of servers, and initiating said second TCP connection with said first server (**column 3, lines 22-27, 40-46, column 1, lines 44-67column 1, lines 13-23, column 2, lines 35-65, and column 7, lines 1-46**).

27. As per claim 26, Cohen et al teach said application requests said end-to end TCP connection with said first server (**column 1, lines 48-67, column 3, lines 7-28, column 6, lines 47-67 and column 7, lines 11-48**).

28. As per claim 27, Cohen et al teach receiving said data on said second TCP connection from said first server; monitoring space in said transmit buffer; and if said transmit buffer has space, determining whether said first TCP connection need additional data (**column 13, line 18 – column 14, lines 20; data is monitored until all packets are obtained from origin server**).

29. As per claim 28, Cohen et al teach if said first TCP connection need said additional data, requesting said additional data from said first server; and repeating said steps of receiving, storing, transferring, monitoring and determining until said request for data from said application is served (**column 13, line 18 –column 14, lines 20; packets are obtained from origin server until request is completed**).

30. As per claim 29, Cohen et al teach said additional data is transferred into said transmit buffer without a request for said additional data (**column 7, lines 1-48 and column 13, line 18 – column 14, lines 20; packets of the data requested will be transferred from origin server to proxy until completed**).

31. As per claim 30, Cohen et al teach if said request for data from said application is served, closing said first TCP connection with said client (**column 1, lines 48-58, column 3, lines 40-46, and column 7, lines 15-35; inherent that a connection established to get requested data gets terminated upon completion of request**).

32. As per claim 31, Cohen et al teach said closing of said connection is done by said control unit upon a receiving a request for closing said connection from said data switching unit (**(Figures 2, 4, column 15, lines 35-56, and column 7, line 55-column 8, line 10)**).

33. As per claims 32-41, 46-72, 77-103, 108-124, these claims contain similar limitations as claims 1-10, and 15-31 above, therefore are rejected under the same rationale.

34. Claims 11, 13, 42, 44, 73, 75, 104, and 106 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen et al (U.S. Patent No. 6,389,462) in view of Geagan, III et al (U.S. Patent No. 6,735,634) and in further view of Riddle (U.S. Patent No. 5,920,732).

35. As per claims 11 and 13, Cohen et al fail to teach that a buffer is pre-allocated. However, Riddle teaches a method for preallocating buffers (**abstract and column 5, lines 5-15**). It would have been obvious to one of the ordinary skill in the art at the time of the applicant's invention to combine the teachings of Cohen et al, Geagan, III et al, and Riddle because Riddles' use of a preallocated buffers in Cohen et al and Geagan, III et al's method would designate specific portions of the buffers for specific content, such as client requests.

36. As per claims 42, 44, 73, 75, 104, and 106, these claims contain similar limitations as claims 11 and 13 above, therefore are rejected under the same rationale.

37. Claims 12, 14, 43, 45, 74, 76, 105, and 107 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen et al (U.S. Patent No. 6,389,462) in view of Geagan, III et al (U.S. Patent No. 6,735,634) and in further view of Radko (U.S. Patent No. 5,687,392).

38. As per claims 12 and 14, Cohen et al fail to teach that a buffer is dynamically allocated. However, Radko et al teach that use of a dynamically allocated buffer (**abstract**). It would have been obvious to one of the ordinary skill in the art at the time of the applicant's invention to combine the teachings of Cohen et al, Geagan, III et al, and Radko because Radko's use of a dynamically allocated buffer in Cohen et al and Geagan, III et al's method would allow for increased buffer space by not designating specific portions of the buffers for specific content and dynamically allocating space as data space is needed.

39. As per claims 43, 45, 74, 76, 105, and 107, these claims contain similar limitations as claims 12 and 14 above, therefore are rejected under the same rationale.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Siegel (U.S. Patent No. 6,850,982)
- b. Robotham et al (U.S. Patent No. 6,775,293)
- c. Pistriotto et al (U.S. Patent No. 6,138,162)
- d. Pitts (U.S. Patent No. 6,505,241)
- e. Gupta et al (U.S. Patent No. 6,701,374)
- f. Yamashita (U.S. Patent No. 6,014,695)

- g. Lechleider (U.S. Patent No. 6,359,883)
- h. Smith et al (U.S. Patent No. 6,877,036).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Refai whose telephone number is (571) 272-3975. The examiner can normally be reached on M-F 8:30 - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ramsey Refai  
Examiner  
Art Unit 2154

RR  
May 2, 2005

